

# 2023 CAPS Annual Workshop

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## Nursery Survey 2022



Prepared by: Scott Weihman and Doug  
Restom Gaskill



# National CAPS Survey Manuals

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## ☐ Survey Groupings (e.g., Commodity Surveys)

- |  |  |
|--|--|
| <input type="checkbox"/> Asian Defoliator                | <input type="checkbox"/> Oak               |
| <input type="checkbox"/> Corn                            | <input type="checkbox"/> Palm              |
| <input type="checkbox"/> Cotton                          | <input type="checkbox"/> Pine              |
| <input type="checkbox"/> Cyst Nematode                   | <input type="checkbox"/> Small Grains      |
| <input type="checkbox"/> Economic and Environmental      | <input type="checkbox"/> Solanaceous Hosts |
| <input type="checkbox"/> Exotic Wood Borer / Bark Beetle | <input type="checkbox"/> Soybean           |
| <input type="checkbox"/> Grape                           | <input type="checkbox"/> Stone Fruit       |
| <input type="checkbox"/> Mollusk                         | <input type="checkbox"/> Tropical Hosts    |
|  | <input type="checkbox"/> No manual         |

## ☐ Nursery Survey- composed of selected pests of concern to Florida

# 2022 Nursery Survey

## Target pests



### Visual survey targets

- ❑ *Bagrada hilaris*  
Bagrada Bug
- ❑ *Oxycarenus hyalinipennis*  
Cotton Seed Bug
- ❑ *Lycorma delicatula*  
Spotted Lanternfly
- ❑ *Lissachatina fulica*  
Giant African Snail

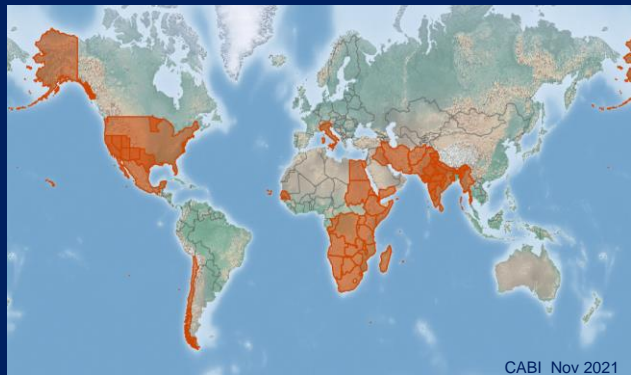
### Trapping survey targets

- ❑ *Helicoverpa armigera*  
Old World Bollworm
- ❑ *Thaumatotibia leucotreta*  
False Codling Moth
- ❑ *Spodoptera litura*  
Cotton Cutworm
- ❑ *Conogethes punctiferalis*  
Castor Capsule Borer
- ❑ *Stenoma catenifer*  
Avocado Seed Moth
- ❑ *Gymnandrosoma aurantianum*  
Citrus Fruit Borer
- ❑ *Lymantria dispar asiatica*\*  
Flighted Spongy moth
- ❑ *Cydalima perspectalis*\*  
Box tree moth

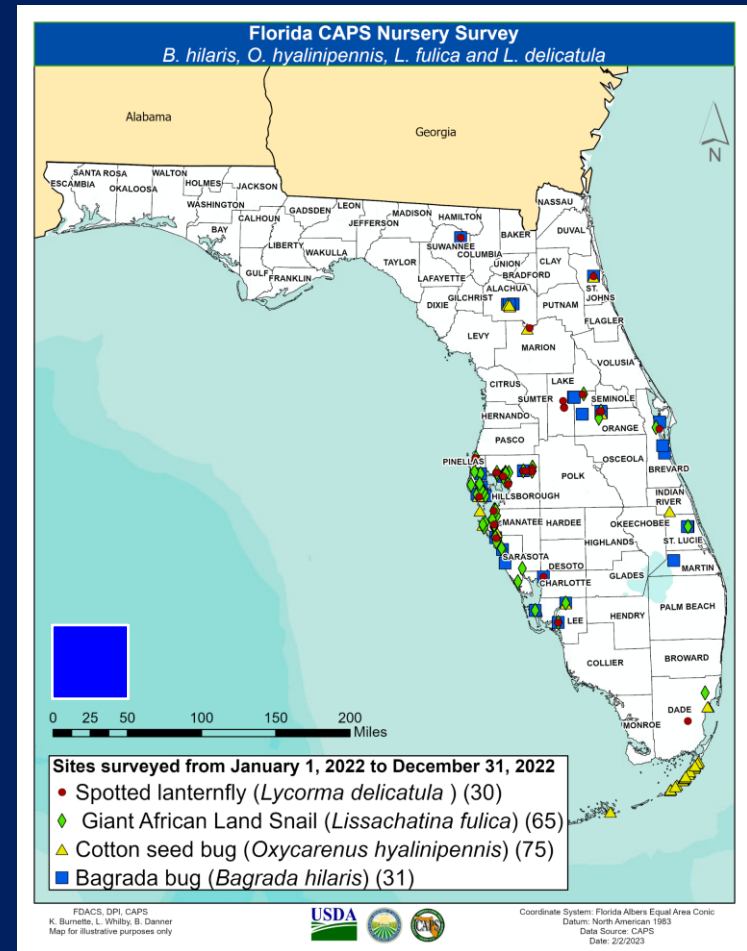
\* Targets added in 2022

# 2022 Nursery Survey

## *Bagrada hilaris* – Bagrada bug

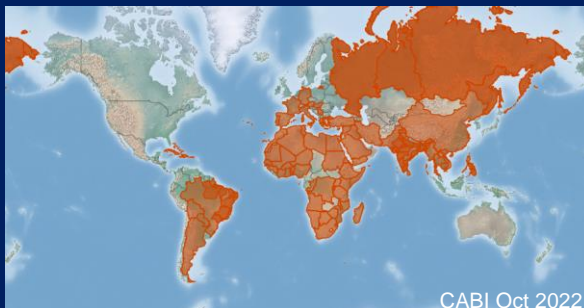


Family:  
Pentatomidae  
Damage:  
leaves, stems,  
flowers, and  
seeds  
Hosts: 74 plant  
species in 23  
families  
Major hosts:  
cruciferous  
crops

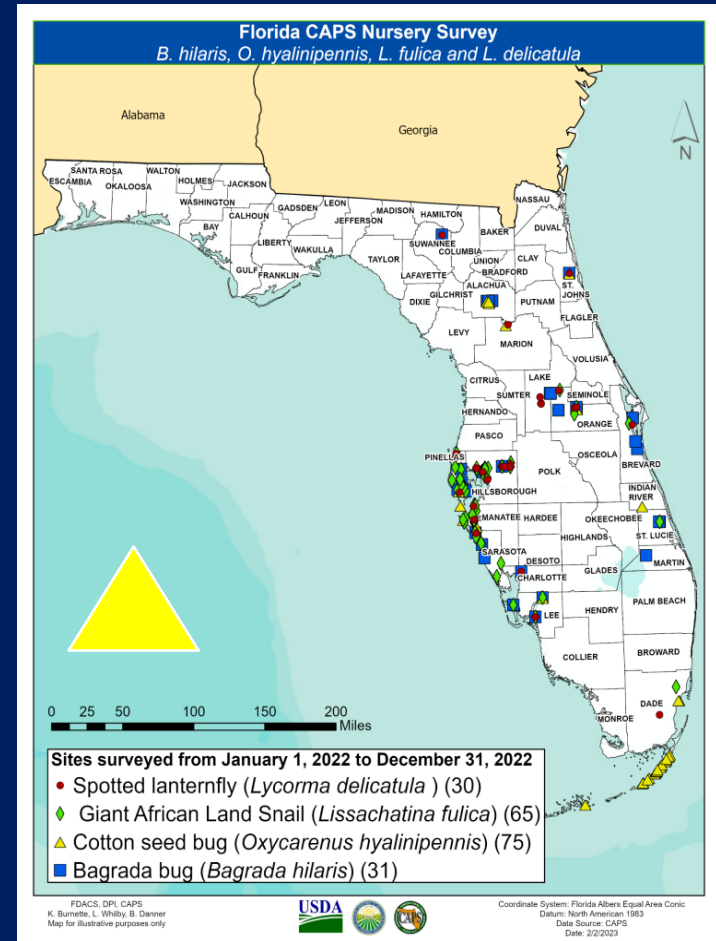


# 2022 Nursery Survey

## *Oxycarenus hyalinipennis* – cotton seed bug

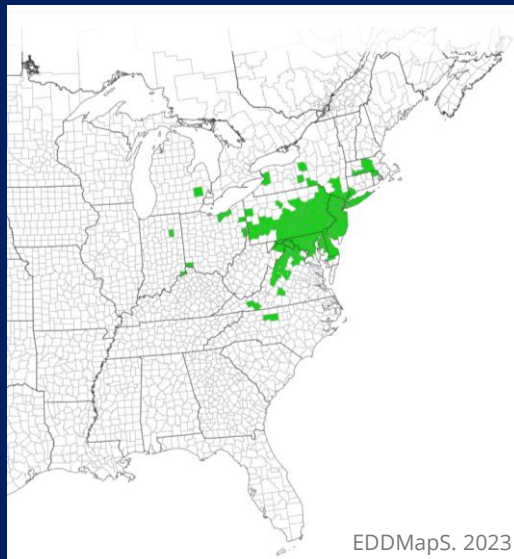


Family: Lygaeidae  
Damage: Seed feeder  
Major hosts:  
Cotton, okra, and  
other Malvaceae

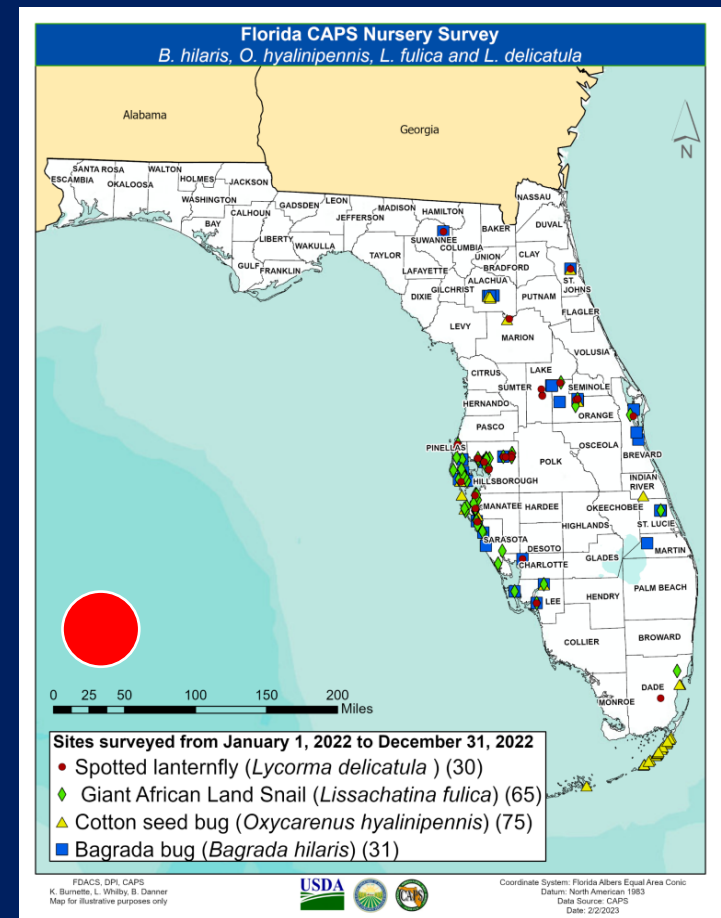


# 2022 Nursery Survey

## *Lycorma delicatula* – spotted lanternfly



Family:  
Fulgoridae  
Damage: phloem  
feeders  
Distribution:  
China, SE and E  
Asia  
Major hosts:  
tree of heaven,  
chinaberry, grape

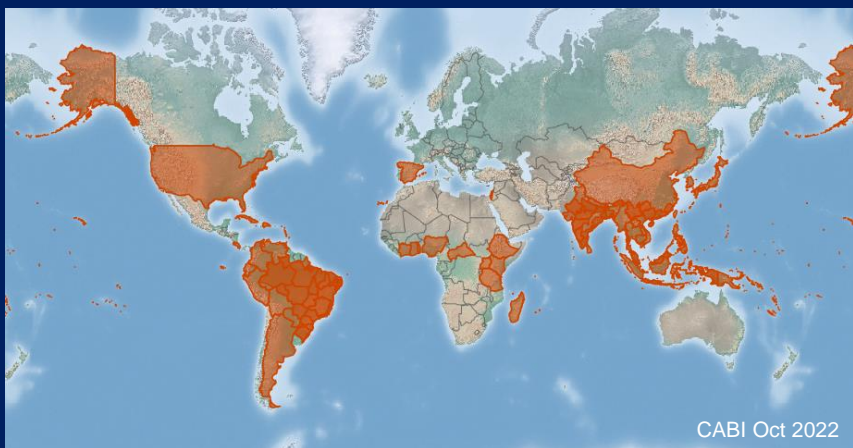


# 2022 Nursery Survey

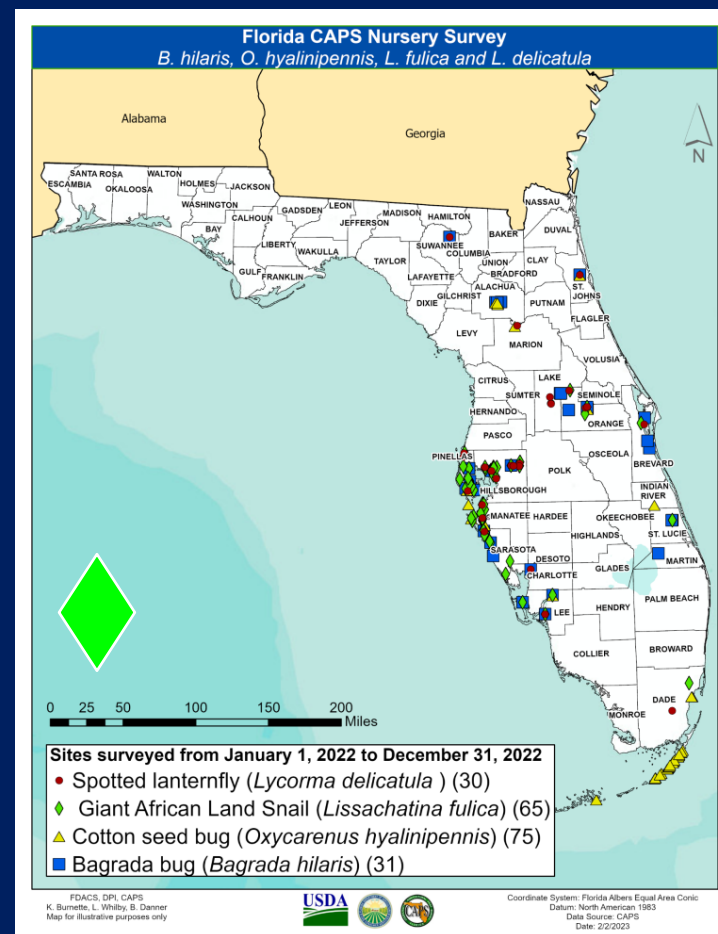
## *Lissachatina fulica*- Giant African Snail



Family:  
Achatinidae  
Damage: living  
and decaying  
plant tissue of  
a broad variety

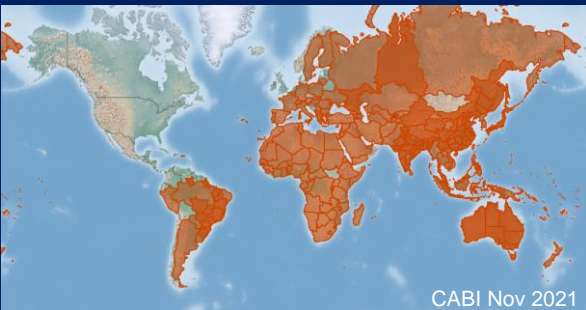


CABI Oct 2022



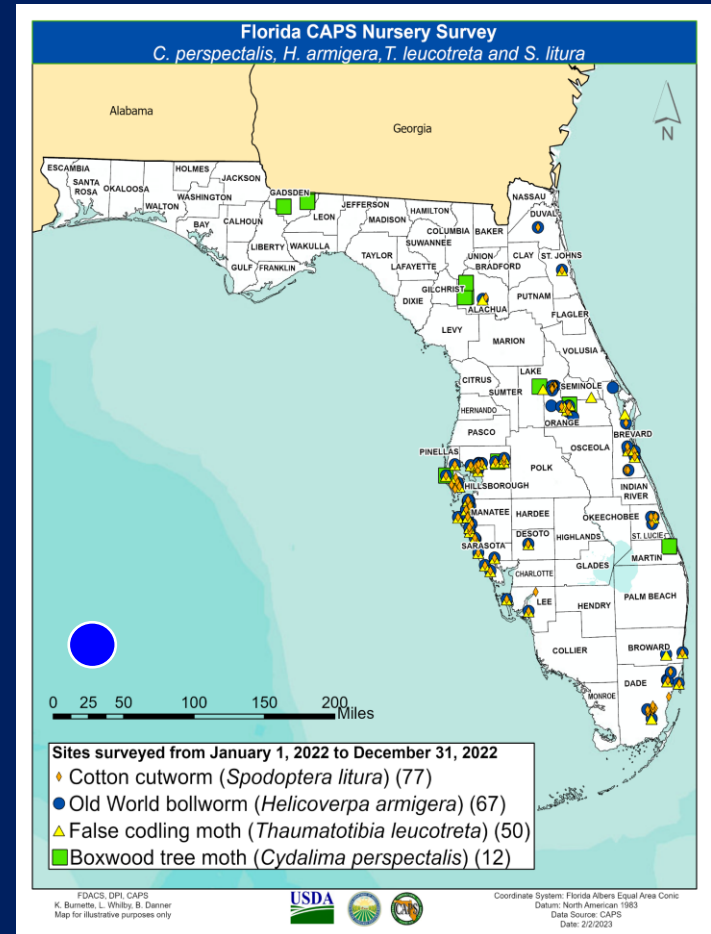
# 2022 Nursery Survey

## *Helicoverpa armigera* – old world bollworm



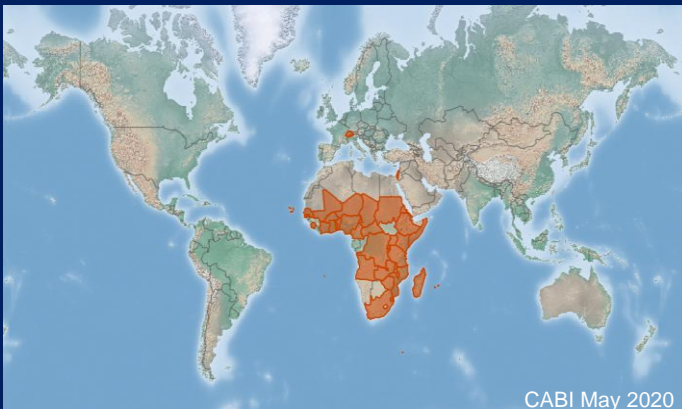
CABI Nov 2021

Family:  
Noctuidae  
Damage:  
reproductive  
parts  
Hosts:  
Polyphagous, at  
least 60  
economically  
important plants,  
incl: corn, cotton,  
soybean,  
sorghum, and  
solanaceous  
crops

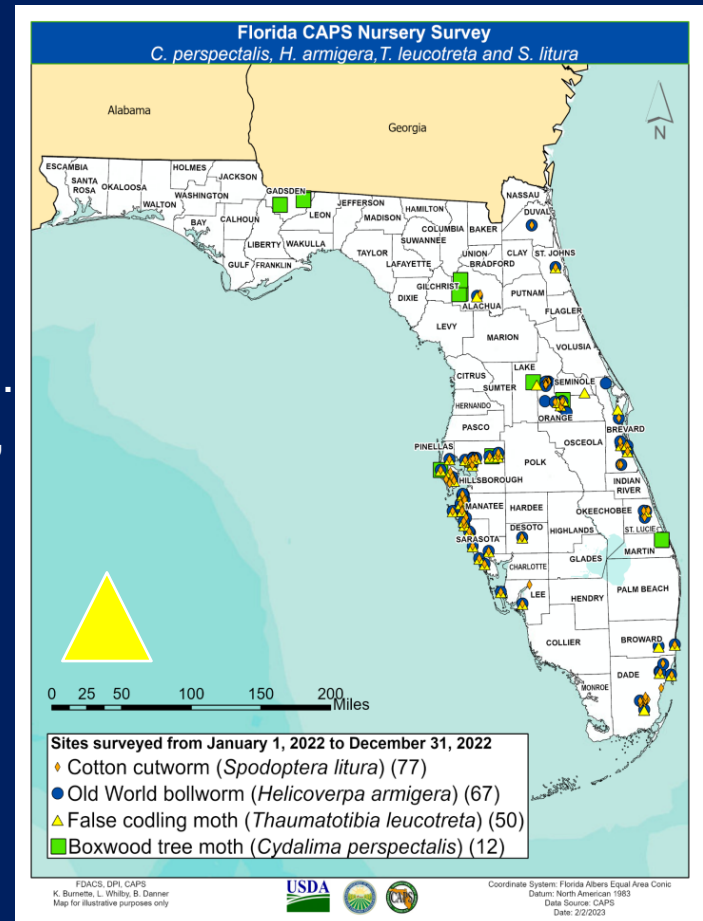


# 2022 Nursery Survey

## *Thaumatotibia leucotreta* - false codling moth



Family:  
Tortricidae  
Damage: fruit  
feeder  
Hosts:  
Polyphagous,  
>50 plant spp.  
incl: avocado,  
citrus, corn,  
cotton,  
pepper, litchi,  
macadamia,  
stone fruits

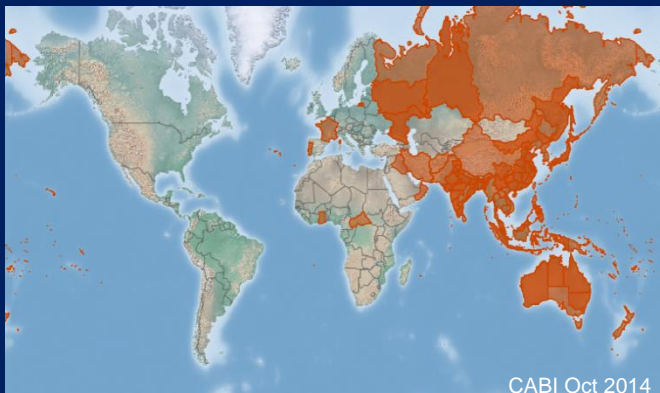


# 2022 Nursery Survey

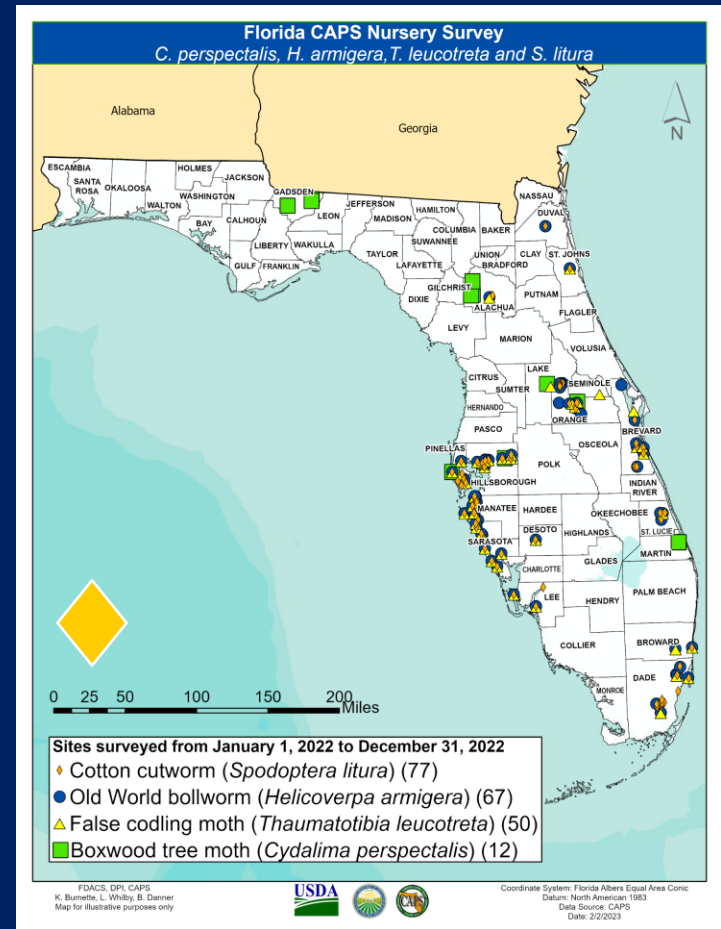
## *Spodoptera litura* – cotton cutworm



Natasha Wright, Florida Department of Agriculture and Consumer Services, Bugwood.org



Family:  
Noctuidae  
Damage: leaf  
feeder  
primarily  
Hosts: 120  
species incl:  
crucifers,  
nightshades,  
bean, cotton,  
taro

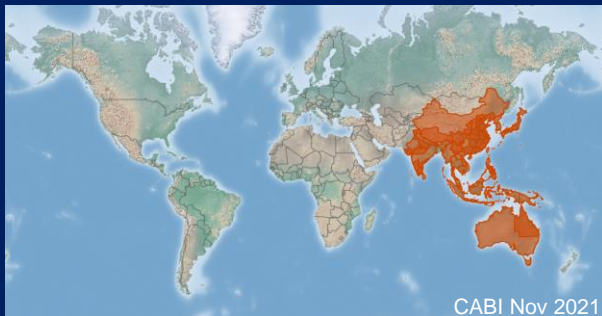


# 2022 Nursery Survey

## *Conogethes punctiferalis* - castor capsule borer

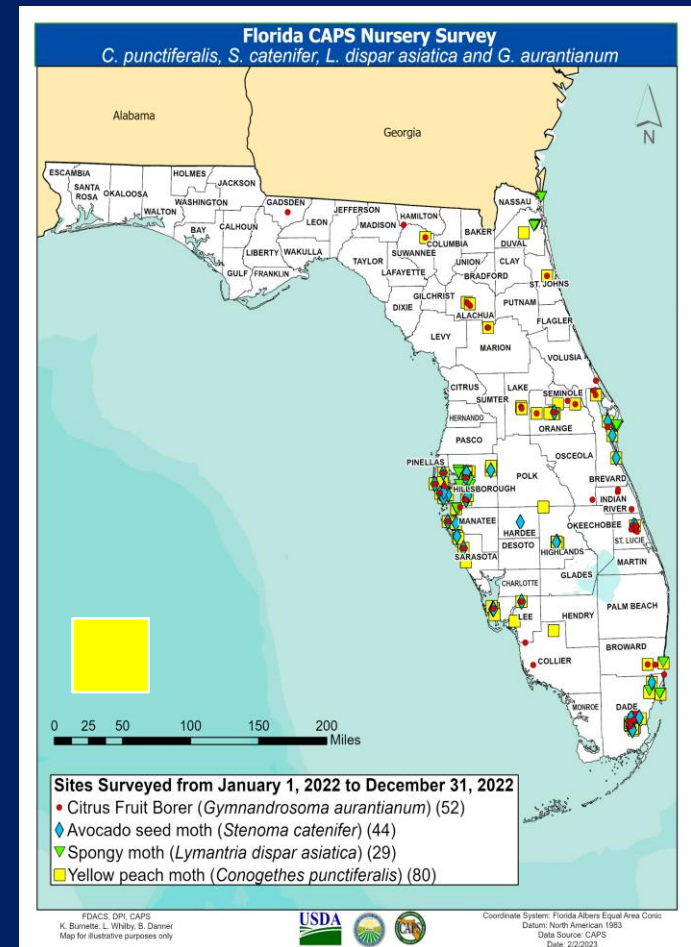


ICAR-National Bureau of Agricultural Insect Resources



Family:  
Crambidae  
Damage: bores into stems, shoots, buds, fruits, and seeds

Hosts: Tropical subtropical, and temperate fruits incl: peach, guava, longan, cacao. Also cotton, sorghum, castor bean, gingers



# 2022 Nursery Survey

## *Stenoma catenifer* – avocado seed moth



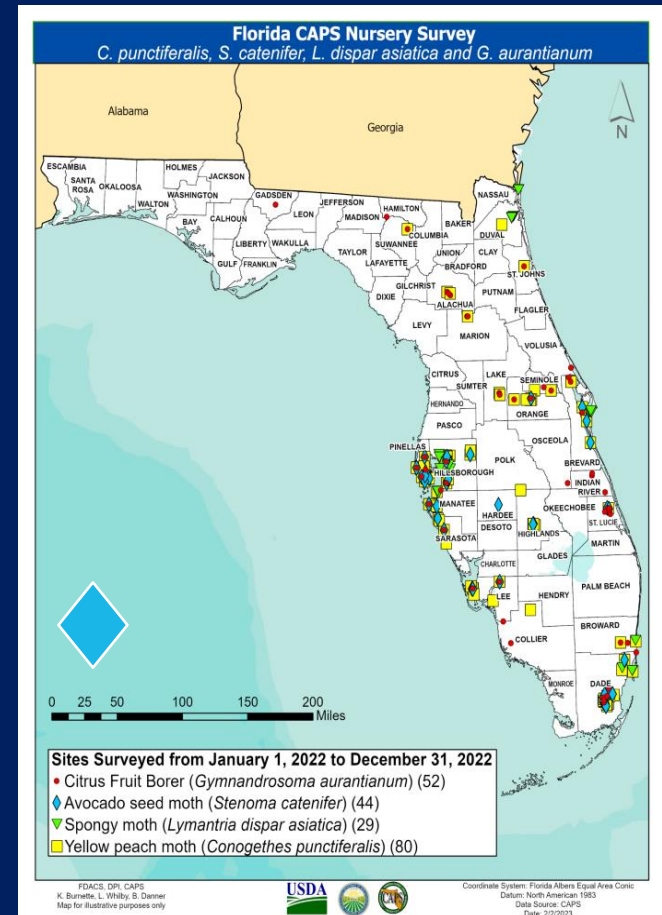
Family:  
Elachistidae  
Damage: stems,  
fruit, and seeds  
Hosts: avocado



Mark Hoddle, UCR



CABI Dec 2020



# 2022 Nursery Survey

## *Gymnandrosoma aurantianum*- Citrus fruit borer



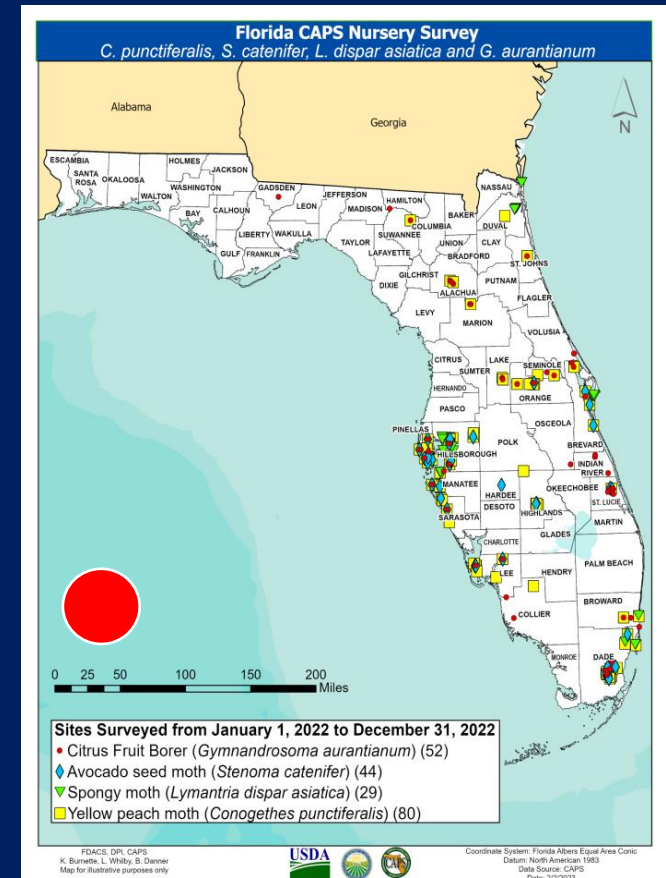
Family:  
Tortricidae  
Damage: fruit,  
nut  
Hosts: citrus,  
macadamia nut,  
Spanish lime,  
other fruits



CABI July 2019



@fundecitrus

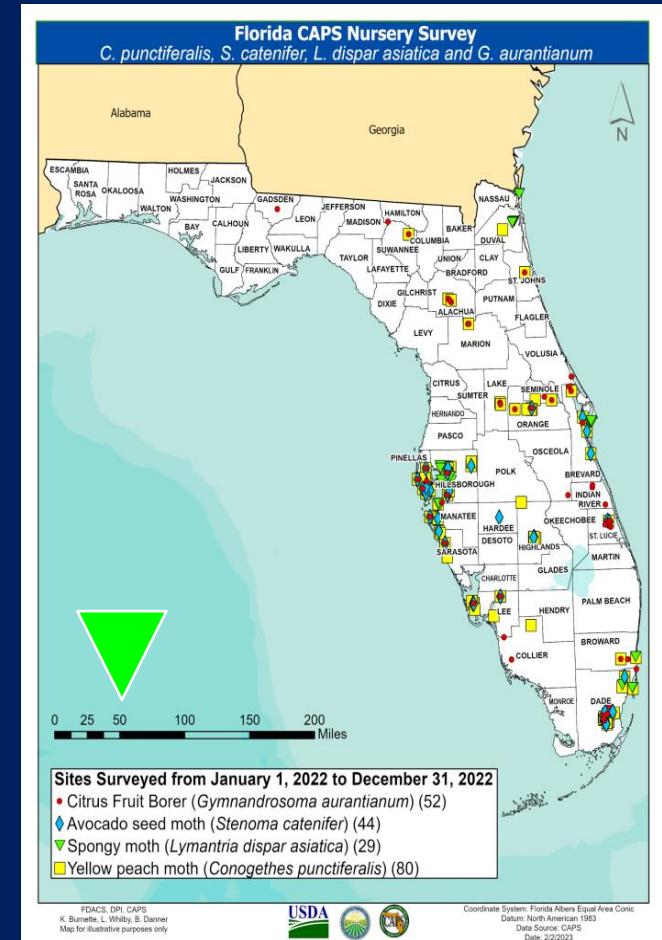
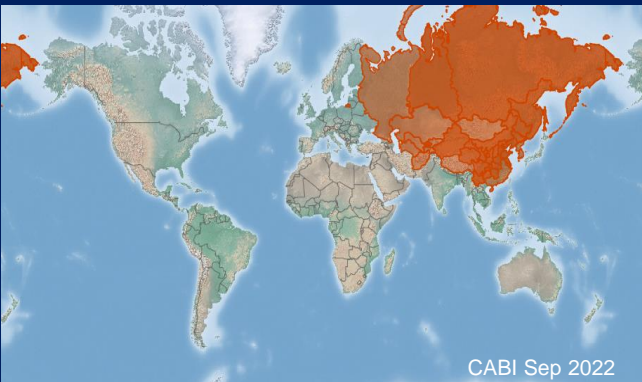


# 2022 Nursery Survey

## *Lymantria dispar asiatica*- Flighted Spongy Moth

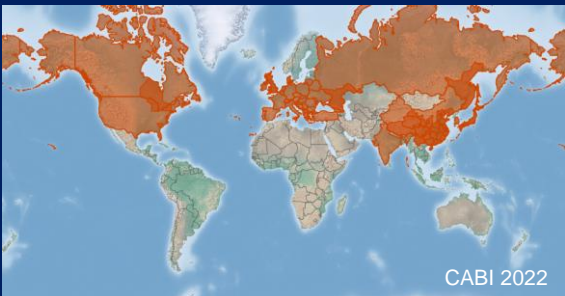
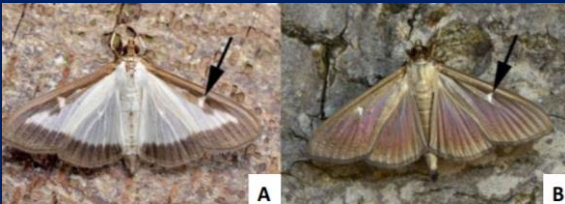


- Family: Erebidae
- Damage: leaf feeding
- Hosts: >500 tree and shrub species. In FL: oak, sweetgum, willow, elm, maple, pine, persimmon

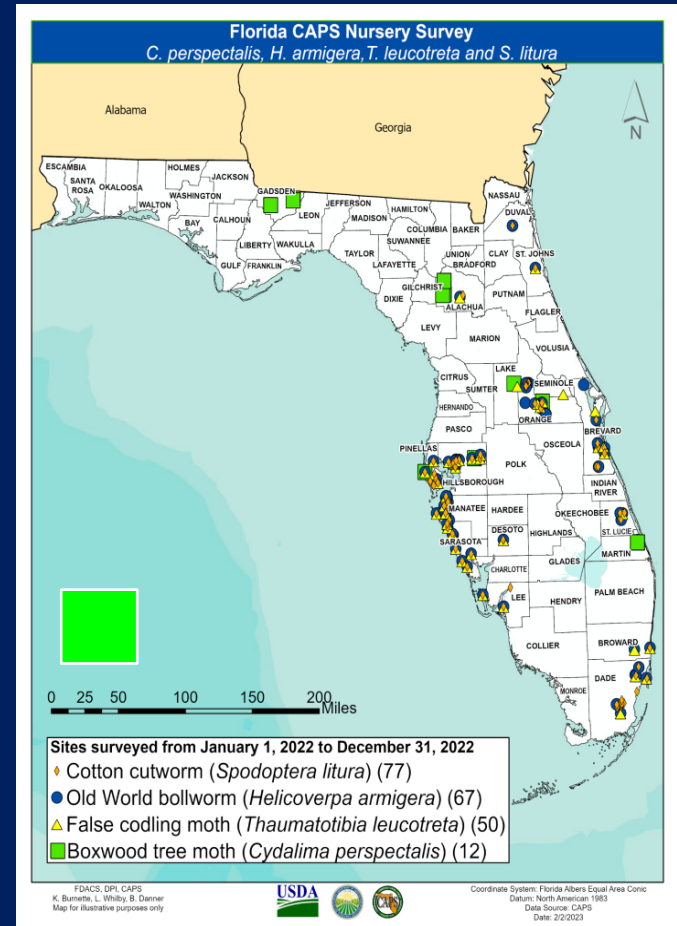


# 2022 Nursery Survey

## *Cydalima perspectalis*- Box tree moth



- Family: Pyralidae
- Damage: leaf, stem, and bark
- Currently in Ontario, Canada
- USA- detected in MI, CT, SC, OH
- NY counties under quarantine
- Preferred host: Boxwood (*Buxus* spp.)
- Other hosts: *Euonymus* spp., purple holly, and orange jessamine



# 2022 Nursery Survey Results

(Jan- Sep 2022)



Number of traps: 405

Number of visual sites: 193

Number of trap checks/ site visits: 4,281

Number of specimens submitted: 1,367

Number of NAPIS entries: 4,279

1 New Host Record: Pinellas County  
(*Nipaecoccus viridis* on cotton)



# 2023 Nursery Survey



## Visual survey targets

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Bagrada Bug
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Cotton Seed Bug
- ❑ *Lycorma delicatula*  
Spotted Lanternfly
- ❑ *Lissachatina fulica*  
Giant African Snail

*Nursery survey targets remain the same for 2023, except that Box tree moth was removed*

## Trapping survey targets

- ❑ *Helicoverpa armigera*  
Old World Bollworm
- ❑ *Thaumatotibia leucotreta*  
False Codling Moth
- ❑ *Spodoptera litura*  
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Asian Gypsy moth